IN THE DRAWINGS:

The attached sheet of drawings includes changes to Figs. 1 and 5. These sheets, which include Figs. 1 and 5, replace the original sheets including Figs. 1 and 5. In Figure 1, previously omitted element numbers 112 and 404 have been added. In Figure 5, previously omitted elements 110, 12, and 404 have been added and previously duplicated element 106 has been deleted.

Attachment: **Replacement Sheets for Figs. 1 and 5**

REMARKS

This is intended as a full and complete response to the Office Action dated September 30, 2005, having a shortened statutory period for response set to expire on December 30, 2005. Please reconsider the claims pending in the application for reasons discussed below.

As an initial matter, several references were crossed out on the IDS submitted February 3, 2005. The examiner indicated that no translation had been received for the references. The references are submitted in a separate Information Disclosure Statement with copies of the English abstracts. According to 37 CFR § 1.98, for each cited reference not in English, a "concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, of each patent, publication, or other information listed that is not in the English language" should be provided. In the instant application, the English abstract of the non-English documents should satisfy the requirement.

In the specification, the paragraphs [0017], [0020], [0027], [0028], [0031], [0032], [0033], and [0034] have been amended to correct minor editorial problems.

In amended Figure 1, the previously omitted element numerals 112 and 404 have been added. In Figure 5, the previously omitted element numerals 110, 112, and 404 have been added and previously duplicate element 106 has been deleted.

Claims 1 - 23 remain pending in the application and are shown above. Claims 1 - 23 stand rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 1 and 11 are amended to clarify the invention. Claim 1 is amended to include "a diffusion member positioned in the catholyte compartment". Support for the amendment can be found in the originally filed claims 11 and 19. Claim 11 is amended to correct matters of form. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference.

Claims 1-9 stand rejected under 35 USC § 102(b) in view of US 6,251,255 B1 to *Copping et al.* (*Copping*), on grounds that *Copping* discloses an electrochemical

apparatus comprising a fluid basin with anolyte and catholyte solution compartments separated by an ionic membrane that is perfluorinated ion exchange polymer reinforced with NAFION®. Applicant respectfully traverses the rejection.

Copping does not disclose or suggest combinations of a diffusion member positioned in the catholyte compartment and an ionic membrane between the anolyte solution compartment and the catholyte solution compartment as currently claimed in claim 1. Therefore, *Copping* does not teach, show, or suggest an electrochemical plating cell comprising a fluid basin for plating having an anolyte solution compartment and a catholyte solution compartment; an ionic membrane positioned between the anolyte solution compartment and the catholyte solution compartment; an anode positioned in the anolyte solution compartment, and a diffusion member positioned in the catholyte compartment, wherein the ionic membrane comprises a poly tetrafluoroethylene based ionomer, as recited in claim 1, and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Applicant further traverses the rejection of dependent claims 2-9 on grounds that they are dependant upon claim 1 which is believed to be allowable. It is believed that claims 2-9 should also be allowable. Withdrawal of the rejection is respectfully requested.

Claims 1-23 stand rejected under 35 USC § 102(e) in view of US 2004/0016647 A1 to *Yang et al.* (*Yang*), on grounds that *Yang* discloses an electroplating cell comprising a fluid basin with an ionic membrane separating an anode compartment from a cathode compartment. The examiner also states that *Yang* discloses the ionic membrane to be NAFION® or CMX-SB. The examiner further alleges that *Yang* discloses a porous ceramic disk shaped diffusion member between the ionic membrane and a substrate plating position. Applicant respectfully traverses the rejection.

The instant invention is disclosed in *Yang*, as noted by the Examiner. The invention of claims 1-23 is not claimed in *Yang*. Moreover, *Yang* discloses the invention of the present inventors and the cited portions of *Yang* do not disclose an invention "by another" as required by 35 U.S.C. §102(e). Therefore, *Yang* and is not prior art against pending claims 1-23. Withdrawal of the rejection is respectfully requested.

Claims 1-9 and 11-23 stand rejected under 35 USC § 103(a) in view of US 2002/0011415 A1 to *Hey et al.* (*Hey*) in view of US 6,251,255 B1 to *Copping et al.* (*Copping*), on grounds that *Hey* in view of *Copping* discloses an electroplating cell comprising a fluid basin with an ionic membrane separating an anode compartment from a cathode compartment. The examiner further alleges that *Hey* in view of *Copping* discloses a porous ceramic disk shaped diffuser. Applicant respectfully traverses the rejection.

Regarding claims 1 and 11, the combination of *Hey* and *Copping* does not disclose or suggest the cell to comprise both a diffusion member positioned in the catholyte compartment and an ionic membrane between the anolyte solution compartment and the catholyte solution compartment. *Hey* teaches a diffuser. *Copping* teaches an ionic membrane. Neither *Hey* nor *Copping* discloses both an ionic membrane and a diffuser. There is no motivation to combine a diffuser and an ionic membrane from the combination of *Hey* and *Copping* as the examiner suggests. Further, the examiner's suggestion would involve placing the ionic membrane of *Copping* into *Hey* as the polymeric membrane for the anode. Thus, even if the examiner's proposed combination were obvious, the combination would still not teach the instant claimed invention. Placing the ionic membrane of *Copping* as the polymeric membrane of *Hey* would result in the ionic membrane being placed in the anolyte solution compartment surrounded by anolyte solution. The ionic membrane would not be between the anolyte solution and the catholyte solution. Therefore, *Hey* and *Copping*, either individually or in combination, do not teach, show, or suggest the cell to comprise a fluid basin for plating having an anolyte solution compartment and a catholyte solution compartment, an ionic membrane positioned between the anolyte solution compartment and the catholyte solution compartment, an anode positioned in the anolyte solution compartment, and a diffusion member positioned in the catholyte compartment, wherein the ionic membrane comprises a poly tetrafluoroethylene based ionomer, as recited in claim 1 and claims dependent thereon. *Hey* and *Copping*, either individually or in combination, also do not teach, show, or suggest the cell to comprise an anolyte compartment configured to contain an anolyte solution, a catholyte compartment configured to contain a catholyte solution for plating a metal onto a

substrate, a cationic membrane positioned to separate the catholyte compartment from the anolyte compartment, an anode positioned in the anolyte compartment, and a diffusion member positioned in the catholyte compartment between the cationic membrane and a substrate plating position, wherein the cationic membrane includes a fluorized polymer matrix as recited in claim 11 and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Regarding claim 18, the combination of *Hey* and *Copping* does not disclose or suggest the anolyte solution compartment positioned in a lower portion of a fluid basin and a cationic membrane between the anolyte solution compartment and the catholyte solution compartment. *Hey* teaches a plating cell with the anolyte compartment positioned in a lower portion of a fluid basin. *Copping* teaches an ionic membrane. Neither *Hey* nor *Copping* discloses both an ionic membrane and the anolyte compartment positioned in a lower portion of a fluid basin. There is no motivation to make the combination from combining *Hey* and *Copping* as the examiner suggests. Further, the examiner's suggestion would involve placing the ionic membrane of *Copping* into *Hey* as the polymeric membrane for the anode. Thus, even if the examiner's proposed combination were obvious, the combination would still not teach the instant claimed invention. Placing the ionic membrane of *Copping* as the polymeric membrane of *Hey* would result in the ionic membrane being placed in the anolyte solution compartment surrounded by anolyte solution. The ionic membrane would not be between the anolyte solution and the catholyte solution. Therefore, *Hey* and *Copping*, either individually or in combination, do not teach, show, or suggest an anolyte compartment positioned in a lower portion of a fluid basin, a catholyte compartment containing a plating solution and being positioned in an upper portion of the fluid basin where substrates are plated, and a poly tetrafluoroethylene based ionomer cationic membrane having a fluorized polymer matrix positioned to separate the anolyte compartment from the catholyte compartment, as recited in claim 18 and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Applicant further traverses the rejection of dependent claims 2-9, 12-17 and 19-23 on grounds that they are dependant upon claims 1, 11 and 18, respectively. Because it is believed that claims 1, 11 and 18 are allowable, it is believed that claims

2-9, 12-17 and 19-23 should also be allowable. Withdrawal of the rejection is respectfully requested.

Claim 10 stands rejected under 35 USC § 103(a) in view of US 2002/0011415 A1 to *Hey et al.* (*Hey*) in view of US 6,251,255 B1 to *Copping et al.* (*Copping*) and further in view of US 2002/0189950 A1 to *Genders et al.* (*Genders*), on grounds that *Genders* discloses the ionic membrane to be CMX-SB and would be obvious to place the membrane of *Genders* in the cell of *Hey* in view of *Copping*. Applicant respectfully traverses the rejection.

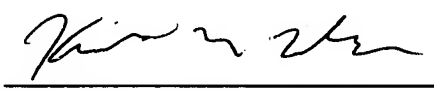
Genders does not disclose or suggest the cell to comprise both a diffusion member positioned in the catholyte compartment and an ionic membrane between the anolyte solution compartment and the catholyte solution compartment and thus cannot cure the deficiencies of *Hey* or *Copping*. Therefore, *Genders*, alone or in combination with *Hey* and *Copping*, do not teach, show, or suggest the cell to comprise both a diffusion member positioned in the catholyte compartment and an ionic membrane between the anolyte solution compartment and the catholyte solution compartment, as required by claim 10. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

The reference to US 2002/0195352 A1 to *Mayer et al.* (*Mayer*) made of record in the office action mailed September 30, 2005 is noted. However, it is believed that *Mayer* is no more pertinent to the Applicant's disclosure than the other references cited in the office action. Therefore, Applicant believes that a detailed discussion of *Mayer* is not necessary for a full and complete response to this office action.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Keith M. Tackett
Registration No. 32,008
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)

KMT:SV
(w/enclosures)